

M E M O R A N D U M

From:	Úna Haran, Lead Sustainability Planning Officer		
Service	WBC Sustainability	App No:	241745
Address:	Brook House, Molly Millar's Bridge, Wokingham, RG41 2WY.		
Proposal:	Outline application for demolition of 846 m ² GIA of Use Class B2 and net gain of 1643 m ² GIA of Use Class Sui Generis - Manufacturing, Storage and Distribution, amounting to a net gain of 797 m ² GIA. Erection of link extension; erection of warehouse extension; erection of 3 silos; reconfiguration of entrance path; external alterations to existing buildings and associated parking.		
Type of Development:	Major Non-Residential (100m ² + GIA)		
Site Visit Made:	No		

Summary Of Recommendations

- ☐ No comment
☒ No objection
☐ No objection subject to conditions (and reasons) **stated below**
☐ Request further information before determination as **stated below**
☐ Objection due to the reason(s) **stated below**

Comments On Proposal

1. S73 application 243053 seeks to vary two conditions imposed on permission 201573 as follows:

Condition as extant	Proposed variation
15. The sui generis Energy Centre hereby permitted shall be contained within Unit 1 (as identified on the approved plans) only. The B1(c) use hereby permitted shall be limited to not more than 50% of the floorspace contained within Units 2 – 11 (as identified on the approved plans).	15. The sui generis Energy Centre hereby permitted shall be contained within Unit 1 (as identified on the approved plans) only. The B1(c) use hereby permitted shall be limited to not more than 50% of the floorspace contained within Units 2 – 9 (as identified on the approved plans).
31. The development hereby approved shall be carried out in accordance with the energy scheme details as agreed in 'Boundoak Works, Arborfield: Energy and Sustainability Statement REV: 002	31. The development hereby approved shall be carried out in accordance with the energy scheme details as agreed in 'Bound Oak Development - Energy Strategy Overview' dated June 2020. The

dated 20-09-24 (Doc.No. 6792-CBC-HR-RP-S-001-P02)'. The scheme shall be implemented in full in accordance with the approved plans and for the lifetime of the development unless otherwise agreed in writing by the local planning authority.	scheme shall be implemented in full in accordance with the approved plans and for the lifetime of the development unless otherwise agreed in writing by the local planning authority.
--	--

2. No objection is raised to the application to vary Condition 15 as suggested.
3. To determine the suitability of revision of Condition 31 as suggested, it is necessary to review the revised Energy and Sustainability Statement.
4. Response to WBC Core Strategy Policy CP1
 - 4.1. *"12) Contribute towards the goal of reaching zero-carbon developments as soon as possible by:"*
 - 4.1.1. *"a) Including appropriate on-site renewable energy features; and"*
 - 4.1.2. *"b) Minimising energy and water consumption by measures including the use of appropriate layout and orientation, building form, design and construction, and design to take account of microclimate so as to minimise carbon dioxide emissions through giving careful consideration to how all aspects of development form."*
 - 4.2. Renewable energy and low carbon technology. The Energy and Sustainability Statement provides baseline regulated emissions and energy usage figures as modelled. Total regulated energy loading is estimated as 62,895.61 kWh/year for the development. Associated emissions amount to 9.65 tCO₂e/year.¹
 - 4.3. The Statement also provides estimates of loads and emissions from unregulated uses as follows: 22,653.47 kWh/year and 3.55 tCO₂e/year.² The inclusion of unregulated impacts in the modelling is welcomed and viewed as positively contributing to the sustainability of the scheme.
 - 4.3.1. A 73.20 kWp solar array will be provided across the 9 units.³
 - 4.3.2. In addition to the photovoltaic panels, air source heat pumps will be used in office spaces to provide space heating and cooling through reverse operation.⁴
 - 4.3.3. In addition to passive design measures, the use of low and zero carbon technologies is modelled to deliver a reduction in regulated operational carbon emissions of 13.66%. This is a feasible level of reduction in light of the strategy outlined and positively contributes to the sustainability of the development.
 - 4.4. Passive design measures
 - 4.4.1. Glazing
 - 4.4.1.1.1. No CIBSE TM52 analysis is provided therefore the design will be appraised for potential overheating risk through Part O of the Building Regulations only. These regulations

¹ Cudd Bentley Consulting, Boundoak Works, Arborfield, Energy and Sustainability Statement. 2024. P.15

² Ibid. P.15

³ Ibid. P.19

⁴ Ibid. P.20

provide limits on the amount of hours during which a space is permitted to exceed maximum temperatures for indoor thermal comfort. The comments on potential risks and mitigating factors for overheating provided in this note do not seek to anticipate the outcome of Part O analysis but rather to identify the degree to which passive design measures have been implemented as part of the overall approach to operational energy demand reduction.

4.4.1.1.2. No calculated glazing ratios are provided, however the Energy and Sustainability Statement notes that *“To ensure the risk of potential overheating is minimised building modelling of the unit has confirmed that no occupied space is at risk from excessive solar gains; this being achieved through use of glazing with a low shading coefficient.”*⁵ The solar transmittance of the glazing specified will be of a lower G-value than standard glazing, having a G-value of 0.36 which is in the best practice range. This strategy is supported and contributes positively to the sustainability of the development.

4.4.1.2. Although the level of glazing to the East and West elevations is relatively high which could lead to excess solar gain from low angle morning and evening sunlight, this is mitigated by large internal volumes and the horizontal orientation of the glazing. Openable panes are not indicated in the plans reviewed however it is recommended that the opportunity for excellent cross-ventilation due to the undivided internal volumes is taken by providing openable lights on multiple aspects.

4.4.2. Passive ventilation is not covered in the Energy and Sustainability Statement and therefore cannot be assessed. It is noted that active ventilation in the form of MVHR will be installed in office spaces with extract ventilation provided to WCs.⁶

4.4.3. Passive cooling from landscape measures may be a benefit of the location as trees at or above window height provide shade to the outward facing elevations of most units.

4.4.4. Heat loss form factor (HLFF). The proposed buildings are simple in form. This is beneficial to the building performance and helps to mitigate the risk of an energy performance gap caused by heat loss through cold bridges in a complex architectural form.

4.4.5. The Energy and Sustainability Statement notes that fabric performance improvements are to be provided in line with Step 1 of the Energy Hierarchy: Be Lean.

4.4.6. The specified building element performance values are provided below alongside compliance and best practice values.

Building element	Unit	Part L 2021 limiting value	Best practice value	Proposed specification
------------------	------	----------------------------	---------------------	------------------------

⁵ Cudd Bentley Consulting, Boundoak Works, Arborfield, Energy and Sustainability Statement. 2024. P.27

⁶ Ibid. P.20

External wall	W/m2.K	0.26	0.12	0.22
Roof (pitched)	W/m2.K	0.16	0.10	0.15
Floor	W/m2.K	0.18	0.10	0.18
Vertical windows	W/m2.K	1.60	0.80	1.20
Rooflights	W/m2.K	2.20	1.00	1.20
Doors	W/m2.K	1.60	0.80	1.60
Vehicle doors	W/m2.K	1.30	0.80	1.30
Air permeability	m3/h.m3 @ 50 Pa	8.0	<1.0	3.0
G value of glass	absolute	none	0.4 – 0.3	0.36

4.5. The majority of the building fabric elements are specified to compliance or near-compliance values however the thermal performance and solar transmittance of the glazing are significant improvements on business as usual.

4.6. Active building systems. Space heating and cooling to offices will be provided by ASHP. MVHR will provide active ventilation to offices and extract fans will serve to ventilate WCs.

4.6.1. The use of MVHR alongside a relatively well insulated and airtight building fabric alongside photovoltaic panels and ASHP is supported as an appropriate strategy for reducing operational emissions.

4.7. Whole life impacts of the proposed scheme are not covered in the Energy and Sustainability Statement however it is noted that the previous proposal for an Energy Centre was based on a larger quantum of development and use of a gas-based system, whereas the current scheme is smaller in scale and accompanied by a decentralised, fossil-free energy strategy.⁷ These revisions positively contribute to the mitigation of the whole life carbon associated with the development and are positively viewed.

4.7.1. Further benefit could be conferred by more ambitious, defined, verifiable goals. For example, a commitment to undertake Whole Life Carbon Assessment and/or prioritise sourcing materials with Environmental Product Declarations (EPDs), and/or to commit to select insulants with a Global Warming Potential < 5.

5. Response to WBC MDD Local Plan Policy CC04 and CC05

5.1. No mention of a BREEAM assessment is made in the application materials. BREEAM 'Excellent' certification is a requirement of Part 2 of Policy CC04 as clarified by the Climate Change Interim Policy Position Statement. It is not clear why a BREEAM condition was not applied to the original application and it is noted that due to works being on site already, it is not now likely that a new certification could be undertaken.

5.2. A commitment to achieve a reduction of 13.66% in carbon emissions through the above measures is sufficient to comply with Part 2 (b) of Policy CC05.

5.3. The Energy and Sustainability Statement states that *"To ensure the sustainability of the development it is anticipated that water efficient fixtures*

⁷ Cudd Bentley Consulting, Boundoak Works, Arborfield, Energy and Sustainability Statement. 2024. P.5

*will be incorporated into the design, such as low flow taps and dual flush toilets with reduced effective flush volumes. To be further sustainable, it is anticipated that pulsed water meters will be installed on the mains water supply, to effectively monitor water consumption. The inclusion of the above sustainability features allows for the development to be deemed sustainable with regard to water consumption.”*⁸ The measures described are positively viewed however the statement does not include a commitment to these measures and no water efficiency calculations are provided.

5.3.1. No proposed flow rates for water appliances are included in the statement. The below table is provided for information on best practice.

Fitting type	Non low-flow consumption	Best practice consumption
WC	5 - 9 L	< 4 L
Handwash basin taps	8 L / minute	2 L / minute
Sink taps	10 L / minute	4 L / minute
Dishwasher	1.25 L / place setting	< 0.7 L / place setting

5.3.2. The inclusion of defined targets for water efficiency and flow rates of fixtures would have lent weight to the statements made.

5.3.3. A commitment to rainwater harvesting or greywater recycling would have strengthened the water strategy.

5.4. Electric Vehicle Charging is not mentioned in the Energy and Sustainability Statement.

5.5. Any specification of permeable hardstanding (for example in parking bays) to contribute to sustainable drainage, is not mentioned in the Energy and Sustainability Statement.

6. Conclusion

6.1. In summary, the proposals outlined in the Energy and Sustainability Statement represent an adequate approach to sustainable development in line with WBC policy, with the exception of the omission of BREEAM assessment is an issue which should have been picked up at application stage.

6.2. The revised proposals represent a more sustainable approach to the programme than the previous iteration. As such, no objection is raised to the variation of the conditions listed as suggested.

Conditions & Reasons (if required)

None.

⁸ Cudd Bentley Consulting, Boundoak Works, Arborfield, Energy and Sustainability Statement. 2024. P.22

Date:	19.12.2024	Signed :	
--------------	------------	--------------------	--

Una Haran
BSc (Hons), MArch
Lead Sustainability Planning
Officer